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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
08/648,270	05/15/96	TOR	Y A-63463-1

12M1/1001

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EXAMINER

CRANE, L

ART UNIT	PAPER NUMBER
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1211

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DATE MAILED: 10/01/97

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 08/18/97 (election), also paper no. 8

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

- ☒ Claim(s) 1-19 is/are pending in the application.  
Of the above, claim(s) 1-3, 6-8, 11 and 14-16 is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 4-5, 9-10, 12-13 and 17-19 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

#### Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number)
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received:

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s).
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

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--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

## Art Unit 1211

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group 1200, Art Unit 1211.

5 No claims have been cancelled.

Claims **1-19** remain in the case.

Applicant's election of Group **V**, claims **9-10**, **17-19**, and claims **4-5 and 12-13 to the degree applicable** in Paper No. *8* is acknowledged. Because applicant did not distinctly and specifically  
10 point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP §818.03(a)).

Claims **1-3**, **6-8**, **11 and 14-16** are withdrawn from further consideration by the examiner, 37 C.F.R. §1.142(b), as being drawn  
15 to a non-elected invention. Election was made **without** traverse in Paper No. *8*

Claims **4-5**, **9-10**, **12-13 and 17-19** are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which  
20 applicant regards as the invention.

In claims **4-5**, **9-10**, **12-13 and 17-19** the terms "comprising"/"comprises" and "further comprising" are incorrect as applied to a compound. Applicant is requested to note that claims directed to chemical compounds are indefinite when terms using  
25 variations of the verb "to comprise" are included, because

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consequently said terms imply the presence of other component parts which are not defined in the instant claims; e.g. metes and bounds are indeterminant.

5 In claims 4-5 it is unclear whether the instant claimed subject matter is properly included within the scope of the elected subject matter. Applicant is respectfully requested to more narrowly define or more completely defined what is meant by the term "substituted aromatic group", and to more completely define what is meant by other variables such as "X" and "X1".

10 Claim 5 recite(s) the limitation "**M**", "**X**" and "**X<sub>1</sub>**" in both the chemical formula provided and as defined variables. There is insufficient antecedent basis for this limitation in in the parent independent claim, i.e. claim 4 fails to include these variables. Applicant will note that properly dependent claims must "further  
15 limit" the subject matter of claims from which they depend. A similar problem occurs in claim 13 when compared with parent or independent claim 12.

20 In claims 10 and 18, the term "the phosphoramidite form of the nucleotide" suggests unfamiliarity with the terminology in the instant art area. Applicant is referred to The Merck Index or any competent biochemistry text (Lehninger, etc.) and will therein find compounds such as "adenylic" and "guanylic" acids, which are monophosphates of adenosine and guanosine, respectively, aka "nucleotides" or "mononucleotides." Phosphoramidites, on the other  
25 hand, are not typically referred to as nucleotides, as they contain phosphorus in a reduced form (P<sup>(III)</sup>) which is not pharmaceutically useful, but is synthetically a commonly used intermediate in the preparation of oligonucleotides. Applicant may chose to replace the

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instant noted phrase in many different ways, but is particularly encouraged to introduce chemical structures rather than names, so there is no doubt (indefiniteness) concerning the chemical structures being claimed. This rejection applied generally to all of the claims currently being examined.

In claim 9, the term "the base of a nucleotide" is indefinite and begs the questions i) which base or bases? and ii) at what ring atom locations on each of the bases individually? The same questions arise in attempting to understand what applicant intends to claim in claim 17.

A broad range or limitation together with a narrower range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex Parte Wu* 10 USPQ 2d, 2031, 2033 (Bd. Pat. App. & Inter., 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is

(a) merely exemplary of the remainder of the claim, and therefore not required, or

(b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Stetgewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 12 recites the broad recitation **"comprising"**, and the claim also recites **"having the formula" together with a chemical formula** which is the narrower statement of the range/limitation.

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Claim 12 lacks proper terminal punctuation.

In claim 12, the term beginning with "A and B ..." is so functional and indefinite that it is impossible to tell what variations in the generic chemical structure applicant is intending to claim.

5 Applicant is also requested to note that terms like "such" (see line 4) or "such as" are considered *prima facie* indefinite, and suggest that applicant needs to draft dependent claims directed to subgeneric or species. In addition, the term "Y is a bond selected from the group consisting of acetylene, alkene, azo or imine" is chemically incorrect.  
10 Because of the complexity of the subject matter and Applicant's apparent unfamiliarity with how to properly structure the technical terminology, it is difficult for Examiner to provide guidance in such a circumstance without either a telephone or personal interview.

15 In claim 19 applicant uses the term "nucleic acid" in a manner suggesting one of a mononucleotide, an oligonucleotide or a polynucleotide. Inspection of claim 12 does not provide much guidance, and suggests that claim 19 may also be improperly dependent. Inspection of the disclosure suggests that applicant has not disclosed any sequences including a phenanthrolyl substituted  
20 nucleotides, but in light of the species indicates at p. 12, may have such plans for future submissions.

Applicant is requested to note that if and when such a sequence or sequences is/are included within a subsequent patent disclosure, they may require submission of the sequence information in a  
25 Computer Readable Form (CRF) for inclusion in the PTO sequence database, a requirement which is described in some detail in the Manual of Patent Examiner Procedure (MPEP).

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Applicant is requested to note that the instant claims are drafted in a manner which makes determination of what applicant intends to claim sufficient uncertain that a computer chemical structure search has not yet been attempted. Applicant is requested to seek advice  
5 from instant Examiner as soon as practical, if any assistance is needed to overcome this difficulty.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103, the examiner presumes that the subject matter of the various claims was  
10 commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to  
15 consider the applicability of potential 35 U.S.C. §§102(f) or (g) prior art under 35 U.S.C. §103.

Papers related to this application may be submitted to Group 1200 via facsimile transmission(FAX). The transmission of such papers must conform with the notice published in the Official Gazette  
20 (1096 OG 30, November 15, 1989). The telephone numbers for the FAX machines now operated by Group 1200 are **(703) 308-4556 and (703) 305-3592** for Official documents. Before transmission of any Draft communications, Applicant is respectfully requested to seek instructions from instant Examiner.

25 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner L. E. Crane whose telephone number is 703-**308-4639**. The examiner

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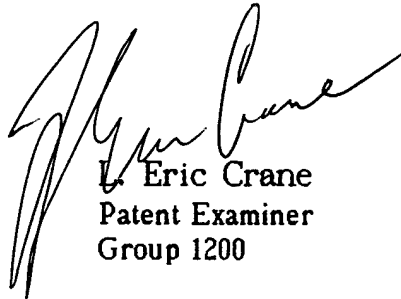
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can normally be reached between 9:30 AM and 5:00 PM, Monday through Friday.

5 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kight III, can be reached at (703)-308-1235.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1200 receptionist whose telephone number is 703-**308-1235** .

10 LECrane:lec  
9/30/97



L. Eric Crane  
Patent Examiner  
Group 1200